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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/820,497

04/07/2004

Devendra Y. Raut

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EXAMINER

ROOT, ROBERT M

ART UNIT

PAPER NUMBER

4183

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/820,497	Applicant(s) RAUT ET AL.	
	Examiner ROBERT ROOT	Art Unit 4183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4-7-2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7-27-2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 2, 5, 6, 7, 10, 11, 12, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. The above listed claims disclose the acronym "BGD" without defining how this term is used in regards for this invention. Appropriate action is required.

4. Claims 5, 10, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. The above listed claims disclose an edge router having a first and second scheduler and first and second ready list. This contrasts what's presented in the *Description of Preferred Embodiments* section of the specification and Figure 3, which disclose the edge router has one scheduler and one ready list. Appropriate action is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rekhter et al (US 6,339,595) in view of Jayaraman et al (US 2003/0210694) and further in view of Langille et al (US 7,242,665).

9. Rekhter discloses a service provider's edge router (broadly interpreted to include edge router) in an Ethernet network (broadly interpreted to include packet network) comprising:

- router circuitry for performing functions provided as communications hardware (broadly interpreted to include a processor resource for processing events);
- one or more processors software-configured to perform communications' operations (broadly interpreted to include at least one scheduler managing all events for processing by the processing resource);
- a Tag Information Base (TIB, broadly interpreted to include ready list);
- individual tunnels (broadly interpreted to include event pipelines) dedicated to individual ones of BGP peers;
- wherein packets (broadly interpreted to include events) received for processing are sent (broadly interpreted to include posted) in their associated tunnels according to the source of the packets;

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- tunnels having packets to be processed modify the TIB (broadly interpreted to include insert a flag in the ready list);
- releases packets to the router circuitry based on predetermined limitations per tunnel;
- the preset limitation is a time limitation; and
- the preset limitation is a filter (broadly interpreted to include buffer)

(Abstract; Figure 1; Column 3, Line 66 – Column 4, Line 9; Column 8, Lines 40-54; Column 10, Line 41 – Column 12, Line 19; Column 14, Lines 17-29; Column 41, Lines 43-60; Column 44, Lines 53-57; Column 45, Lines 7-13).

Rekhter fails to disclose the scheduler repetitively scans the ready list sequentially; wherein individual ones of the BGP peers are virtual private routed networks (VPRNs) away from the packet network; and comprising a first and a second scheduler, a first and a second ready list, and pipelines dedicated to events associated with both VPRNs and core BGP peers in the service provider network, wherein the pipelines associated with VPRNs communicate with the first scheduler and the first ready list, and the pipelines associated with the core BGP peers communicate with the second scheduler and the second ready list.

10. Jayaraman discloses in the same field of endeavor a router in an Ethernet network (broadly interpreted to include packet network) comprising:

- a resource manager (broadly interpreted to include scheduler) continuously scanning the data in the table (broadly interpreted to include ready list) sequentially (Paragraphs 0118 and 0212). Jayaraman discloses the above difference for the purpose of developing an intelligent content-based router that examines the data in a packet, and

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then routes the packet to a destination where it can be most quickly, cheaply, and efficiently processed.

11. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the edge router described by Rekhter and add to it the functionality of the router described by Jayarman to create an edge router for a packet network comprising intelligent content-based components that examine the data in a packet, and then routes the packet to a destination where it can be most quickly, cheaply, and efficiently processed.

12. In addition, Langille discloses in the same field of endeavor a router in an Ethernet network (broadly interpreted to include packet network) comprising:

- individual interfaces of the BGP peers are virtual private routed networks (VPRN) away from the Ethernet;
- first and second routers comprising a first and second QoS manager (broadly interpreted to include scheduler), a first and second routing table respectively, and tunnels (broadly interpreted to include pipeline) dedicated to protocol messages or packets (broadly interpreted to include events) associated with both VPRN and core BGP peers in the service provider network, wherein the tunnels associated with the VPRNs communicate with the first QoS manager and the first routing table, and the tunnels associated with the core BGP peers communicate with the second QoS manager and the second routing table

(Figure 2; Column 1, Lines 20-33; Column 1, Lines 45-58; Column 4, Lines 7-24;

Column 4, Lines 57-67). Langille discloses these differences for the purpose of

providing improved performance in the face of tremendous growth in network size and

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complexity.

13. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the above combined edge router by Rekhter and Jayarman and add to it the functionality of the router described by Langille to create an edge router for a packet network comprising intelligent content-based components that examine the data in a packet, and then routes the packet to a destination where it can be most quickly, cheaply, and efficiently processed in the face of tremendous growth in network size and complexity.

14. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rekhter et al (US 6,339,595) in view of Jayaraman et al (US 2003/0210694) and further in view of Langille et al (US 7,242,665).

15. Rekhter discloses a method for processing events in BGP peering in a service provider's edge router (broadly interpreted to include edge router) in an Ethernet network (broadly interpreted to include packet network) comprising:

- placing received packets (broadly interpreted to include events) associated with BGP peers in dedicated tunnels (broadly interpreted to include pipelines) according to the BGP source;
- modifying the Tag Information Base (TIB, broadly interpreted to include ready list) by individual tunnels having packets ready to be processed;
- the processor (broadly interpreted to include scheduler) releasing packets for each tunnel to the router circuitry (broadly interpreted to include processing resource) based on predetermined limitations per tunnel;
- the preset limitation is a time limitation; and

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- the preset limitation is a filter (broadly interpreted to include buffer)

(Abstract; Figure 1; Column 3, Line 66 – Column 4, Line 9; Column 8, Lines 40-54; Column 10, Line 41 – Column 12, Line 19; Column 14, Lines 17-29; Column 41, Lines 43-60; Column 44, Lines 53-57; Column 45, Lines 7-13).

Rekhter fails to disclose the router scanning the ready list sequentially and repeatedly by a scheduler; wherein individual ones of the BGP peers are virtual private routed networks (VPRNs) away from the packet network; and comprising a first and a second scheduler, a first and a second ready list, and pipelines dedicated to events associated with both VPRNs and core BGP peers in the service provider network, wherein the pipelines associated with VPRNs communicate with the first scheduler and the first ready list, and the pipelines associated with the core BGP peers communicate with the second scheduler and the second ready list.

16. Jayaraman discloses in the same field of endeavor a method for processing data (broadly interpreted to include events) in a router in an Ethernet network (broadly interpreted to include packet network) comprising:

- a resource manager (broadly interpreted to include scheduler) scans the data in the table (broadly interpreted to include ready list) sequentially and continuously (Paragraphs 0118 and 0212). Jayaraman discloses the above difference for the purpose of developing a method comprising an intelligent content-based router that examines the data in a packet, and then routes the packet to a destination where it can be most quickly, cheaply, and efficiently processed.

17. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the method described by Rekhter and add

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to it the functionality of the method described by Jayarman to create a method for processing events in BGP peering in an edge router for a packet network comprising an intelligent content-based device that examines the data in a packet, and then routes the packet to a destination where it can be most quickly, cheaply, and efficiently processed.

18. In addition, Langille discloses in the same field of endeavor a method for processing events in a router in an Ethernet network (broadly interpreted to include packet network) comprising:

- individual interfaces of the BGP peers are virtual private routed networks (VPRN) away from the Ethernet;
- first and second routers comprising a first and second QoS manager (broadly interpreted to include scheduler), a first and second routing table respectively, and tunnels (broadly interpreted to include pipeline) dedicated to protocol messages or packets (broadly interpreted to include events) associated with both VPRN and core BGP peers in the service provider network, wherein the tunnels associated with the VPRNs communicate with the first QoS manager and the first routing table, and the tunnels associated with the core BGP peers communicate with the second QoS manager and the second routing table

(Figure 2; Column 1, Lines 20-33; Column 1, Lines 45-58; Column 4, Lines 7-24;

Column 4, Lines 57-67). Langille discloses these differences for the purpose of providing improved performance in the face of tremendous growth in network size and complexity.

19. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the above combined method by Rekhter

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and Jayarman and add to it the functionality of the method described by Langille to create a method for processing events in BGP peering in an edge router for a packet network comprising an intelligent content-based device that examines the data in a packet, and then routes the packet to a destination where it can be most quickly, cheaply, and efficiently processed in the face of tremendous growth in network size and complexity.

20. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rekhter et al (US 6,339,595) in view of Jayaraman et al (US 2003/0210694) and further in view of Langille et al (US 7,242,665).

21. Rekhter discloses a machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method for processing events in BGP peering in a service provider's edge router (broadly interpreted to include edge router) in an Ethernet network (broadly interpreted to include packet network) comprising:

- placing received packets (broadly interpreted to include events) associated with BGP peers in dedicated tunnels (broadly interpreted to include pipelines) according to the BGP source;
- modifying the Tag Information Base (TIB, broadly interpreted to include ready list) by individual tunnels having packets ready to be processed;
- the processor (broadly interpreted to include scheduler) releasing packets for each tunnel to the router circuitry (broadly interpreted to include processing resource) based on predetermined limitations per tunnel;
- the preset limitation is a time limitation; and
- the preset limitation is a filter (broadly interpreted to include buffer)

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(Abstract; Figure 1; Column 3, Line 66 – Column 4, Line 9; Column 8, Lines 40-54; Column 10, Line 41 – Column 12, Line 19; Column 14, Lines 17-29; Column 41, Lines 43-60; Column 44, Lines 53-57; Column 45, Lines 7-13).

Rekhter fails to disclose the router scanning the ready list sequentially and repeatedly by a scheduler; wherein individual ones of the BGP peers are virtual private routed networks (VPRNs) away from the packet network; and comprising a first and a second scheduler, a first and a second ready list, and pipelines dedicated to events associated with both VPRNs and core BGP peers in the service provider network, wherein the pipelines associated with VPRNs communicate with the first scheduler and the first ready list, and the pipelines associated with the core BGP peers communicate with the second scheduler and the second ready list.

22. Jayaraman discloses in the same field of endeavor a machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method for processing data (broadly interpreted to include events) in a router in an Ethernet network (broadly interpreted to include packet network) comprising:

- a resource manager (broadly interpreted to include scheduler) scans the data in the table (broadly interpreted to include ready list) sequentially and continuously (Paragraphs 0118 and 0212). Jayaraman discloses the above difference for the purpose of developing a machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method where an intelligent content-based router that examines the data in a packet, and then routes the packet to a destination where it can be most quickly, cheaply, and efficiently processed.

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23. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method described by Rekhter and add to it the functionality of the machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method described by Jayarman to create a machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method for processing events in BGP peering in an edge router for a packet network comprising an intelligent content-based device that examines the data in a packet, and then routes the packet to a destination where it can be most quickly, cheaply, and efficiently processed.

24. In addition, Langille discloses in the same field of endeavor a machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method for processing events in a router in an Ethernet network (broadly interpreted to include packet network) comprising:

- individual interfaces of the BGP peers are virtual private routed networks (VPRN) away from the Ethernet;
- first and second routers comprising a first and second QoS manager (broadly interpreted to include scheduler), a first and second routing table respectively, and tunnels (broadly interpreted to include pipeline) dedicated to protocol messages or packets (broadly interpreted to include events) associated with both VPRN and core BGP peers in the service provider network, wherein the tunnels associated with the VPRNs communicate with the first QoS manager and the first routing

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table, and the tunnels associated with the core BGP peers communicate with the second QoS manager and the second routing table (Figure 2; Column 1, Lines 20-33; Column 1, Lines 45-58; Column 4, Lines 7-24; Column 4, Lines 57-67). Langille discloses these differences for the purpose of providing improved performance in the face of tremendous growth in network size and complexity.

25. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to take the above combined machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method by Rekhter and Jayarman and add to it the functionality of the machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method described by Langille to create a machine-readable medium having stored thereon a set of instructions that cause a machine to perform a method for processing events in BGP peering in an edge router for a packet network comprising an intelligent content-based device that examines the data in a packet, and then routes the packet to a destination where it can be most quickly, cheaply, and efficiently processed in the face of tremendous growth in network size and complexity.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT ROOT whose telephone number is (571)270-1960. The examiner can normally be reached on Monday to Thursday from 7:30am to 5:00pm Eastern.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on 571-272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert Root/
Examiner, Art Unit 4183

/Len Tran/
Supervisory Patent Examiner, Art Unit 4183